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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/624,522	07/24/2000	Rob A. Beuker	PHN 17,569	6297

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS
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EXAMINER

VO, TUNG T

ART UNIT	PAPER NUMBER
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2613

DATE MAILED: 09/24/2003

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/624,522

Applicant(s)

BEUKER, ROB A.

Examiner

Tung T. Vo

Art Unit

2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 June 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 4-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Horne (US 5,473,379) as set forth in the previous Office Action, Paper No. 4.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horne (US 5,473,379) as applied to claim 1, and further in view of Zhu (US 6,462,791) as set forth in the previous Office Action, Paper No. 4.
5. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Horne (US 5,473,379) as applied to claims 6 and 7, and further in view of De Haan et al. (US 6,385,245 B1) as set forth in the previous Office Action, Paper No. 4.

Response to Arguments

6. Applicant's arguments filed 06/09/03 have been fully considered but they are not persuasive.

The applicant pointed out that in the subject invention, as claimed in claim 1, the global motion vector is used as a candidate vector in a block-based motion vector estimation process (BME) that involves comparing a plurality of candidate vectors (including the global motion vector) to determine a motion vector, pages 2 and 3 of the remarks. These features are not exactly claimed in claim 1. It is clearly submitted that the recited claim 1 "a motion vector estimation method that comprises the steps: carrying out a block-based motion vector estimation process that involves comparing a plurality of candidate vectors to determine block-based motion vectors; determining at least a most frequently occurring block based motion vector; carrying out a global motion vector estimation process using at least the most frequently occurring block-based motion vector to obtain a global motion vector; applying the global motion vector as a candidate vector to the block-based motion vector estimation process". Therefore, arguments are not persuasive.

The applicant argued that there is nothing in the art that would provide an incentive to a person of ordinary skill in the art that to replace using the global motion vector to define search window as taught by Horne by using the global motion vector as a candidate vector as taught by the present invention, page 2 of the remarks.

The examiner respectfully disagrees with the applicant. It is submitted that Horne teaches the step of carrying out a global motion vector estimation process (106 of fig. 1) using at least the most frequently occurring block-based motion vector to obtain a global motion vector

best match

Art Unit: 2613

(401, 402, 403, 404, 405, 406, and 407 of fig. 4; e.g. the step (407) determines a global motion vector using the best block-based motion vector $MV_{i,dt}$ that is received from the block-based motion vector estimation process (322 of fig. 3A); see also col. 11, lines 29-32, and col. 12, lines 29 through col. 13, line 16); applying the global motion vector as a candidate vector to the block-based motion vector estimation process (330 of fig. 3A; e.g. the step (330) receives the global motion vector from the motion estimator (106 of fig. 1); see also col. 11, lines 47-58). Horne further teaches the displaced (each candidate displaced block) is identified so that the motion estimator (104 of fig. 1) derives a motion vector, is provided to the global motion estimator (106 of fig. 1); the global motion estimator (106 of fig. 1) outputs a global motion vector to the motion estimator (104) so the global vector is called as a candidate vector because the candidate vector is identified based upon the compared candidate blocks (col. 10, lines 55-64). In view of the discussion above, Horne anticipates the claimed features.

With regard claim 4, the applicant argued that there is not mention in Horne whatsoever of using second most frequently occurring vector to obtain the global vector, page 2 of the remarks.

The examiner respectfully disagrees with the applicant. It is submitted that Horne teaches using second most frequently occurring vector to obtain the global vector (i.e. a second best block-based motion vector (second-most frequently occurring block-based motion vector) is determined by the step (318 of fig. 3A) and then being transmitted to the global motion estimator (106 of fig. 1) by the step of (322); see also col. 11, lines 29-31, 47-56).

With regard claim 5, the applicant argued that nothing in Horne shows that the process of determining a global comprises steps of on block basis, comparing a plurality of candidate

Art Unit: 2613

vectors including most frequently according vector to obtain a best vector per block; and then outputting as the global vector, the most frequently occurring best vector, pages 2 and 3 of the remarks.

The examiner respectfully disagrees with the applicant. It is submitted that Horne further discloses wherein said global motion vector estimation process includes the steps of comparing, on a block basis (col. 12, lines 12-14; e.g. the global motion estimator (106 of fig. 1) generates a global motion vectors for a video frame by estimating the component of motion common to every block (block basis) in the entire frame, and using block matching with respect to any reference frame), a plurality of candidate vectors, including the most frequently occurring block-based motion vector, to obtain best vectors determined per block (401 of fig. 4; e.g. the best motion vector $MV_{i,t}$ is calculated by comparing the $DB_{i,t}$ with candidate displaced blocks, best matched block within A_{ref} , see also col.10, line 56 through col. 11, line 1, 29-31; col. 12, lines 29-32); and outputting a most-frequently occurring best vector determined per block as the global motion vector (405 of fig. 5; the best motion vector is determined in the step (407) of the global motion estimator (106 of fig. 1) to output the global motion vector to the motion compression device).

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after

Art Unit: 2613

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung T. Vo whose telephone number is (703) 308-5874. The examiner can normally be reached on 6:30 AM - 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris. Kelley can be reached on (703) 305-4856. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

Tung T. Vo
Examiner
Art Unit 2613

T.Vo


CHRIS KELLEY
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